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New hydro-mechanical continuously variable transmission

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Abstract

© TJPRC Pvt. Ltd. The article is devoted to solving the problem of creating continuously variable transformers for vehicles. The article considers the scheme of hydro-mechanical torque converter and dual-channel hydrostatic-mechanical transmission. A comparative analysis of the existing hydro-mechanical torque converter is given; their main advantages and disadvantages are revealed. The advantages that are obtained by using differential mechanisms in conjunction with torque converters and hydrostatic drive and a hydraulic gear. The proposed scheme fundamentally new mechanisms, namely hydro-mechanical differential mechanisms with gears external and internal meshing. The distinctive features of hydro-mechanical differential mechanisms are revealed and their classification is carried out. Proven ability to write based on these patterns of differential hydro-mechanical CVTs. The schemes of the most promising schemes of differential hydro-mechanical CVTs, designed for use in the transmission of both cars and trucks. The pilot-industrial design of the differential hydro-mechanical CVT was designed, which was tested in road conditions and confirmed the operability of these mechanisms. The technical results obtained by using a differential hydro-mechanical CVT as part of the vehicle transmission are presented.

Keywords

CVT, Differential mechanisms, Torque converter & hydro-mechanical differential mechanisms, Transmission

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